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## (54) CONTRACEPTIVE DEVICE


(71) We, JAN-OLOF BRUNDIN and ULF SOREN BORELL, Subjects of the King of Sweden, and residents of 16 Barkstigen, S—181 46 Lidingo and of 11 Orrspelsvagen, S—182 75 Stocksund, respectively in the Kingdom of Sweden, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—


The present invention relates to a contraceptive device.

Known mechanical contraceptive devices used by women all have certain disadvantages. Thus, for example, the known intrauterine contraceptive devices, which are kept in the uterus for a long time, often cause an increase in the amount of menstrual bleeding. Moreover, they may cause pressure on the walls of the uterus and changes in the tissue of the uterus.

The Swedish Patent 335 779 discloses a contraceptive intrauterine device, which after insertion only occupies the uterus. It is the object of this intrauterine device to shield part of the funnel-shaped portions of the uterus, into which the oviducts (fallopian tubes) emerge, from contact with the other portions of the cavity of the uterus. Its function is more dependent on the presence of a relatively big, foreign body placed in the uterus than on an incomplete shielding of the corners (cornua) of the uterus.

Now it has been found that conception and un-desired gravidity of the woman can be prevented by means of a quite new principle. Thus the invention provides a contraceptive device for preventing conception by blocking a woman's oviducts, comprising a pair of separated, substantially cylindrical elongate members of generally circular cross-section, each of said elongate members being adapted to be inserted into an oviduct and being adapted, when in place, to prevent the passage of spermatozoa along each respective oviduct, and wherein an indicator filament is attached to each of said elongate members.

The present contraceptive device does not have the disadvantages connected with the intrauterine contraceptive devices and, thus, allows normal menstruation and does not disturb the hormonal balance either. Also, with the present contraceptive device the spermatozoa are prevented from reaching the ovum in the oviducts, and as a result, an ovum is never fertilized.

The present contraceptive device acts in such a way that the passage through the oviducts will be shut. Therefore no fertilization will take place.

The device is inserted into the orifices of the oviducts by means of a hysteroscope, local anaesthesia preferably being used. The contraceptive device is first inserted into one orifice of the oviduct and then into the other. It can be easily removed, thereby reopening the passage of the ovum to the uterus.

The contraceptive device comprises two substantially cylindrical, elongate members which are to be inserted into each of the orifices of the oviduct. The elongate members are preferably made by coating a resilient metal filament with a material harmless to the tissue. The elongate members intended for insertion into the orifice of the oviduct preferably have a cross-sectional diameter of between 1.0—2.5 mm and a length of between 20—50 mm, preferably between 20—30 mm. The cylindrical, elongate members may also have an enlarged end so that their insertion into the oviduct is simplified, in addition to which expulsion is also made more difficult. The elongate members are provided with indicator filaments, which — as is well-known with intrauterine contraceptive devices — emerge from the orifice of the uterus, indicating whether the contraceptive device is still in position, and to make the removal of the device easier. It is not necessary that the contraceptive device is built on a metal filament or the like. It can consist of a flexible material harmless to the tissue and can possibly contain substances providing X-ray contrast.

The elongate members may be solid or

hollow, with sealed ends. In one embodiment these elongate members are tubular and are formed of separate parts, one part being inserted into the other, with the inclusion of helical springs so that they form a telescopical, resilient members, the helical springs also serving as a core. In another embodiment the elongate members are tubular and sealed at their ends, and the cavities are maintained under such a pressure by means of fluid, i.e. a gas or a liquid, that the elongate members not only obtain enough stiffness for insertion into the oviducts but also become distended so that the sealing of the oviducts is more complete.

The invention is described more in detail in the accompanying drawing, in which Fig. 1 shows schematically an embodiment of the present contraceptive device, and Fig. 2 shows an end portion of one member of the device.

In Fig. 1 the numerals 1 and 2 show substantially cylindrical elongate members to be inserted into the orifices of the oviducts. The elements 1 and 2 each have an indicator filament 4. The elongate members of the contraceptive device are built on a metal filament 5 as base. The members 1 and 2 each have an enlarged end 6, as shown in Fig. 2. The metal filament 5 can be replaced with a polymer product; to obtain sufficient stiffness it is of course also possible to use a base material having suitable flexibility and strength.

WHAT WE CLAIM IS:—

1. A contraceptive device for preventing conception by blocking a woman's oviducts, comprising a pair of separated, substantially cylindrical elongate members of generally circular cross-section, each of said elongate members being adapted to be inserted into an oviduct and being adapted, when in place, to prevent the passage of spermatozoa along the oviduct, and wherein an indicator filament is attached to each of said elongate members.

2. A contraceptive device according to Claim 1, wherein one end of each elongate member has an enlarged head for insertion into an oviduct.

3. A contraceptive device as claimed in any preceding claim, wherein each of said elongate members has a length of between 20 and 50 mm.

4. A contraceptive device as claimed in any preceding claim, wherein the cross sectional diameter of each of said elongate members is between 1.0 and 2.5 mm.

5. A contraceptive device as claimed in any preceding claim, wherein at least one of said elongate members is hollow.

6. A contraceptive device as claimed in claim 5, wherein said at least one hollow elongate member contains a fluid under pressure to maintain said elongate member in close contact with the walls of the oviduct.

7. A contraceptive device, substantially as shown herein, and described with reference to Figures 1 and 2 of the accompanying drawings.

MARKS AND CLERK,
Agents for the Applicants.

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1460077 COMPLETE SPECIFICATION
1 SHEET *This drawing is a reproduction of the Original on a reduced scale*

FIG . 2 .

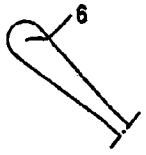


FIG. 1 .